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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

09/812,134

03/19/2001

Balasubramanian Kalyanasundaram

CIS00-3379

7602

7590

11/10/2005

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EXAMINER

NG, CHRISTINE Y

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|--|--|
| Office Action Summary | Application No. 09/812,134 | Applicant(s) KALYANASUNDARAM ET AL. | |
| | Examiner Christine Ng | Art Unit 2663 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-16,18-31 and 33-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-40 is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8,16,18-20,23,31 and 33-37 is/are rejected.
- 7) ☒ Claim(s) 6,7,9-15,21,22 and 24-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5, 16, 18, 20, 31, 33, 35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,434,380 to Andersson et al.

Referring to claims 1, 16 and 37, Andersson et al disclose a communications device (Figure 1, capacity management system 100) comprising :

[Figure 2/2A] A communications interface (agent residence section 104); a memory system (UE agent 150); a processor (admission control unit 106, load manager 108, resource managers 110,112); and an interconnection mechanism (signal lines) coupling the communications interface, the memory system, and the processor. Refer to Column 4, lines 20-48.

[Figure 2/2A] Wherein the memory system is configured with a resource negotiation application (Figure 4A), that when performed on the processor, provides the communications device with a means for adjusting usage of a resource (transmission power, spreading code, handover legs, etc.) of a communications channel (radio link). Refer to Column 5, lines 30-35 and Column 7, line 47 to Column 8, line 2. The memory system includes:

[Figure 4] Means (152,154,156,158) for negotiating a current resource setting (transmission power, spreading code, handover legs, etc.) for usage of the resource of the communications channel. Refer to 5, line 12 to Column 6, line 2.

[Figure 4] Means (not shown) for performing communications on the communications channel using the resource. Refer to Column 6, lines 48-58.

[Figure 4A] Means (160,162,164) for periodically renegotiating a new value for the current resource setting upon detecting a negotiation event during performance of communications on the communications channel using the resource. The negotiation event is the resource change logic 160 estimating whether it would be worthwhile for user equipment agent 150 to attempt to re-negotiate for connection resources. Refer to Column 7, line 26 to Column 8, line 2.

Andersson et al do not specifically disclose that the negotiating event indicates that an accrued usage cost of the resource of the communications channel is at least one of: i) substantially equals to a cost to renegotiate the current resource setting (none); and ii) exceeds a cost to renegotiate the current resource setting.

However, Andersson et al disclose in Figure 3, each resource manager 180 calculates the accrued usage cost (total resource cost allocation 190) of a current resource setting. Refer to Column 6, lines 19-33. In Figure 3A, each resource manager 180 calculates the cost to renegotiate the current resource setting. Refer to Column 8, lines 16-31. Furthermore, the resource change logic 160 "estimates whether it would be worthwhile for user equipment agent 150 to attempt to re-negotiate for connection resources" (Column 7, lines 55-57). Therefore, it would have been obvious to one of

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ordinary skill in the art at the time the invention was made to compare the accrued usage cost to the cost to renegotiate the current resource setting; and perform the negotiation event when the accrued usage cost exceeds a cost to renegotiate the current resource setting. One would be motivated to do so because since the resource change logic 160 "estimates whether it would be worthwhile for user equipment agent 150 to attempt to re-negotiate for connection resources", it would be worthwhile to renegotiate new connection resources if the accrued usage cost is more expensive than the new renegotiated connection resources.

Referring to claims 3, 18 and 33, Andersson et al disclose that the negotiation event indicates at least one of: i) that an actual resource setting of the communications channel substantially equals the current resource setting for the communications channel (none); ii) that an actual resource setting (present network conditions) of the communication channel substantially exceeds the current resource setting for the communications channel. The resource change logic 160 "may estimate that a potential greater allocation of connection resources could now be obtained" (Column 7, lines 55-60). Since a greater allocation of connection resources could be obtained, this means that the actual resource setting of the communication channel exceeds the current resource setting.

Referring to claims 5, 20 and 35, Andersson et al disclose the step of periodically renegotiating a new value for the current resource setting upon detecting a negotiation event comprises the steps of:

Detecting a negotiation event related to the resource. Refer to Column 7, line 55 to Column 8, line 2.

In response to the step of detecting, calculating a new value for the current resource setting that more closely approximates a value of an actual resource usage of the resource of the communications channel. The system negotiates connection resources after an initial allocation of resources have been made. This is done when resource change logic 160 estimates "that a potential greater allocation of connection resource could now be obtained" or when it realizes "that user equipment unit 20 is over extended in view of present network load conditions...". Resources are renegotiated to adjust to changing network conditions. Refer to Column 7, line 25 to Column 8, line 2.

Negotiating with a resource allocator (admission control unit 106) to establish the new value for the current resource setting. Refer to Column 8, lines 22-31.

Referring to claim 31, Andersson et al discloses in Figure 6 a computer program product (Column 4, lines 25-29) having a computer-readable medium to perform the operations defined in claims 1, 16 and 37. Refer to the rejection of claims 1, 16 and 37.

3. Claims 4, 19 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,434,380 to Andersson et al view of U.S. Patent No. 6,570,860 to Hamalainen et al.

Andersson et al disclose a resource (transmission power, spreading code, handover legs, etc.) of the communications channel and wherein the negotiation event indicates that a data communications device using the resource of the communications channel has requested to negotiate a new value for the current resource setting for the

resource of the communications channel. Refer to Column 5, lines 30-35 and Column 7, line 26 to Column 8, line 2.

Andersson et al do not disclose that the resource is a bandwidth setting.

Hamalainen et al disclose that in wireless mobile systems, the maximum data transfer rate on one traffic channel is restricted to levels depending on the available channel bandwidth. Refer to Column 1, lines 30-38. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the resource is a bandwidth setting; the motivation being that all channels require a bandwidth in order to transmit information.

4. The indicated allowability of claims 8, 23 and 36 is withdrawn in view of the newly discovered reference(s) to U.S. Patent No. 6,570,860 to Hamalainen et al. Rejections based on the newly cited reference(s) follow.

Claims 8, 23 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,434,380 to Andersson et al in view of U.S. Patent No. 6,570,860 to Hamalainen et al.

Andersson et al do not disclose that the step of calculating a new value for the current resource setting comprises the steps of: calculating a new value for a minimum resource setting; calculating a new value for a maximum resource setting; and calculating the new value for the current source setting to be a new value approximately between the value for the minimum resource setting the value for the maximum resource setting.

Hamalainen et al disclose that a mobile station sends to the serving mobile

network its minimum resource setting (minimum desired data transfer rate) and maximum resource setting (maximum data transfer rate). The serving base station assigns a new current resource setting (data transfer rate) for the mobile station, which is within the limits of the minimum required data transfer rate and the maximum desired data transfer rate. After handover, the mobile station is also assigned a current resource setting (data transfer rate) which is at least the minimum required data transfer rate and not higher than the maximum desired data transfer rate. Refer to Column 5, lines 25-65; Column 6, lines 14-32; and Column 7, lines 4-13. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the step of calculating a new value for the current resource setting comprises the steps of: calculating a new value for a minimum resource setting; calculating a new value for a maximum resource setting; and calculating the new value for the current source setting to be a new value approximately between the value for the minimum resource setting the value for the maximum resource setting; the motivation being to provide lower and upper limits, as specified by the user, for the resource setting in order to maintain a desired setting.

Allowable Subject Matter

5. Claims 38-40 are allowed.
6. Claims 6, 7, 9-15, 21, 22 and 24-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed September 1, 2005 have been fully considered but they are not persuasive.

Referring to the argument of claims 1, 16 and 37 that Andersson et al "shows a discrete, Boolean (yes/no) determination, while the claimed negotiation computes an optimal level along a continuum of resource allocation" (page 15, lines 9-25), refer to Figure 4A. Andersson et al disclose that the resource change logic 160 "estimates whether it would be worthwhile for user equipment agent 150 to attempt to re-negotiate for connection resources" (Column 7, lines 55-57). When re-negotiation is feasible, "resource change logic 160 authorizes resource change request preparer 164 to prepare a re-negotiation bid to submit to one or more resource managers" (Column 6, line 65 to Column 8, line 2). The re-negotiation then continues as shown by the process of Figure 3A. Refer to Column 8, lines 16-41. The claim states that the method "periodically renegotiates a new value for the current resource setting upon detecting a negotiation event..." (claim 1, lines 7-8). Similarly, Andersson et al disclose that upon detecting a negotiation event (the resource change logic 160 estimates that it is worthwhile for user equipment agent 150 to attempt to re-negotiate for connection resources), renegotiation (Figure 3A) for a new value occurs. The renegotiation process ends in a success/failure decision depending on whether the newly requested resources.

Referring to the argument of claims 5, 20 and 35 that in Andersson et al, "the bid is merely a request subject to a determination, not the claimed calculation of a new

value" (page 15, line 26 to page 16, line 14), refer to Figure 4A. The system negotiates connection resources after an initial allocation of resources has been made. This is done when resource change logic 160 estimates "that a potential greater allocation of connection resource could now be obtained" or when it realizes that "user equipment unit 20 is over extended in view of present network load conditions...". Resources are renegotiated to adjust to changing network conditions. Refer to Column 7, line 25 to Column 8, line 2. The system calculates a new value for the resource (according to a changed status in the telecommunication system) and then negotiates with the admission control unit 106 to determine a success/failure decision. Refer to Column 8, lines 16-41.

Referring to the argument of claims 8, 23 and 36 that Hamalainen "teaches mandatory operational requirements, not permissive performance optimizations" (page 16, line 15 to page 17, line 4), refer to Figure 6. The minimum and the maximum requirements for the data transfer rate of the user data are determined by the mobile station to indicate a desired level of service and a required level of service. The desired level of service is a performance optimization since it is the maximum data transfer rate to be allowed to the mobile station. The required level of service is also a performance optimization since it is the "minimum data transfer rate that must be provided for ensuring the continuity of data transfer". Refer to Column 5, lines 25-65.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng (u)
November 1, 2005


RICKY NGO
PRIMARY EXAMINER